

CLAIMS-USA

1. Tension decoupler device connecting two parts (14, 15) of a structure and fitted with rupture members (54, 72), the rupture of which cause decoupling of said parts (14, 15) when they break, characterized in that it
5 comprises:

- a first set of first rupture members called fusible rupture members (54), arranged to be parallel to each other,
- a second set of second rupture members called
10 structural rupture members (72), arranged to be parallel to each other and parallel to the first fusible rupture members (54),

and in that said first fusible rupture members (54) and said second structural rupture members (72) are
15 designed to break only when the load applied to the decoupler device reaches a given predetermined load value, and said second structural rupture members (72) are designed to have sufficient fatigue strength as long as said applied load does not reach said predetermined
20 load value.

2. Decoupler device according to claim 1, characterised in that the number of fusible rupture members (54) is the same as the number of structural rupture members (72).

25 3. Decoupler device according to claim 1, characterised in that the number of fusible rupture

members (54) is greater than the number of structural rupture members (72).

4. Decoupler device according to claim 1, characterised in that the number of fusible rupture
5 members (54) is less than the number of structural rupture members (72).

5. Decoupler device according to claim 1, characterised in that the fusible rupture members and the structural rupture members are distributed around a
10 circular flange (52) and in that the fusible rupture members (54) and the structural rupture members (72) follow a regular alternating distribution along at least one average line (40, 41) of said flange (52).

6. Decoupler device according to claim 5, characterised in that each fusible rupture member (54) is
15 located between two structural rupture members (72).

7. Decoupler device according to claim 5, characterised in that the fusible rupture members (54) are grouped in pairs, and the structural rupture members
20 (72) are grouped in pairs, and each pair of fusible rupture members (54) is located between two pairs of structural rupture members (72).

8. Decoupler device according to claim 5, characterised in that all the fusible rupture members
25 (54) and structural rupture members (72) are distributed around a same average line (40) of the flange (52).

9. Decoupler device according to claim 5, characterised in that all the fusible rupture members (54) are located on a first average line (40) of the

flange (52) and in that all the structural rupture members (72) are located on a second average line (41) of the flange (52), the two average lines (40, 41) being concentric.

5 10. Decoupler device according to claim 1, characterised in that the structural rupture members (72) are stiffer than the fusible rupture members (54).

11. Decoupler device according to claim 1, characterised in that the shape of the structural rupture
10 members (72) is thicker than the shape of the fusible rupture members (54).

12. Decoupler device according to claim 1, characterised in that the first fusible rupture members are first fusible screws (54) and the second structural
15 rupture members are second structural screws (72).

13. Decoupler device according to claim 12, characterised in that the first fusible screws (54) comprise an zone of weakness (64) between their head (56) and their thread (58), that initiates a tensile rupture.

20 14. Decoupler device according to claim 13, characterised in that the zone of weakness (64) comprises a portion with a reduced cross-section.

15. Decoupler device according to claim 13, characterised in that the zone of weakness (64) comprises
25 a portion from which material has been removed by drilling.

16. Decoupler device according to claim 13, characterised in that the zone of weakness (64) is obtained by application of local heat treatment.

17. Decoupler device according to claim 1, characterised in that the first fusible rupture members are first fusible rivets and the second structural rupture members are second structural rivets.

5 18. Decoupler device according to claim 1, characterised in that the first fusible rupture members are first fusible bolts and the second structural rupture members are second structural bolts.